

### Remarks

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

By the above amendments, claim 48 has been added. Support for claim 48 is found in the specification at page 9, line 14 to page 10, line 19, where suitable non-fluorophore probes are described.

The rejection of claims 2-3 under 35 U.S.C. § 112 (2<sup>nd</sup> para.) for indefiniteness is respectfully traversed in view of the above amendments.

The rejection of claims 1, 20, 21, 34, and 46 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,577,137 to Groger et al. ("Groger"), is respectfully traversed.

Groger teaches the preparation and use of an optical sensor that is formed by an optical waveguide and one or more fluorophores incorporated into or deposited on the optical waveguide (column 1, line 31 to column 2, line 23). The optical waveguide can be prepared from porous polymeric or ceramic materials (column 2, lines 2-6). Groger further teaches that the light-induced fluorescence is modified by the waveguide; incident light is reflected in part or enters the waveguide, while fluorescent emissions are radiated by the waveguide or propagated (i.e., guided) through the waveguide.


Groger fails to teach or suggest a biological sensor as presently claimed. In particular, Groger fails to teach or suggest a sensor that includes a porous *semiconductor* material, as required by claim 1 of the present application. Furthermore, Groger's optical sensor relies for its operation on changes in fluorescence emitted from *fluorophores* either incorporated in optical waveguides or deposited on optical waveguides resulting from exposure of the fluorophores to analytes of interest (column 1, lines 46-50). In contrast, the presently claimed invention recites that "a detectable change occurs in a refractive index of the biological sensor upon binding of the one or more probes to the target molecule." Both the structure and operation of the device described in Groger differs from the presently claimed invention. Therefore, Groger cannot be said to anticipate the present application.

For the above reasons, the rejection of claims 1, 20, 21, 34, and 46 under 35 U.S.C. § 102(b) as anticipated by Groger is improper and should be withdrawn.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: February 22, 2005

  
\_\_\_\_\_  
Edwin V. Merkel  
Registration No. 40,087

NIXON PEABODY LLP  
Clinton Square, P.O. Box 31051  
Rochester, New York 14603-1051  
Telephone: (585) 263-1128  
Facsimile: (585) 263-1600

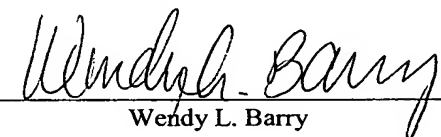
CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

- ☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450
- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at \_\_\_\_\_.

February 22, 2005

Date

  
\_\_\_\_\_  
Wendy L. Barry